



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,500	02/24/2000	Yasumasa Kuroba	2803.63637	5652

24978 7590 12/15/2003

GREER, BURNS & CRAIN  
300 S WACKER DR  
25TH FLOOR  
CHICAGO, IL 60606

EXAMINER

PATEL, GAUTAM

ART UNIT PAPER NUMBER

2655

DATE MAILED: 12/15/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/512,500

Applicant(s)

KUROBA ET AL.

Examiner

Gautam R. Patel

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 8 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 12.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

#135

### DETAILED ACTION

1. Claims 1-2, and 8 are pending for the examination.

### RCE STATUS

2. The request filed on 10-9-01 for Request for continued Examination (RCE) under 37 CFR 1.114 based on parent Application is acceptable and a RCE has been established. An action on the RCE follows.

### *Election/Restriction*

3. Claims 3-6 **remains withdrawn** from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected species there being no allowable generic or linking claim. Election was made with traverse in Paper No. 4. Election was made final in paper no. 5.

Applicant is reminded that **upon the cancellation of claims to a non-elected invention, the inventorship must be amended** in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

The Applicants are urged to cancel non-elected claims 3-6.

### NOTES/REMARKS

4. The examiner would like to thank the Applicants for detailed explanation of figures 7A and 7B in their REMARKS section and also during interview.

***Claim Rejections - 35 U.S.C. § 102***

Art Unit: 2655

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371<sup>9</sup> of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 and 8 are rejected under 35 U.S.C. § 102(e) as being anticipated by Ohmi, US. patent 5,936,787 (hereafter Ohmi).

As to claim 1, Ohmi discloses the invention as claimed [see Figs. 3-6] including detecting vibration detecting phase determining write start and moving head comprising the steps of:

detecting continuous vibration of the medium, said continuous vibration being asynchronous with the rotational frequency of said spindle motor;

detecting the phase of the detected asynchronous continuous vibration [col. 3, lines 19-58];

determining the write start sector **or** the write end sector **or** the write start time **or** the write end time of each servo track based on said detected phase of the asynchronous continuous vibration [col. 9, lines 3-25 and col. 9, line 66 to col. 10, line 27]; and

moving said head by said head moving mechanism on said recording surface where said head positioning information is to be written and writing said information based on said write start sector or said write end sector [col. 2, line 66 to col. 3, line 9 and col. 9, lines 3-25].

NOTE: Ohmi discloses that error signals from rotational and axial direction are combined to produce a single adjustment signal. In other words write start sector place and time are inherently defined and writing starts accordingly.

6. As to new claim 8, Ohmi discloses:

said continuous asynchronous vibration is detected with a displacement gauge [fig. 1, units 14 & 18] [col. 3, lines 10-18]

NOTE: Circuit 14 function as a "displacement gauge" as it detects the counter electromotive force.

Ohmi was cited as prior art reference in paper no. 5, mailed 3-20-03.

7. Applicant's arguments filed on 11-14-03 ( Paper # 11) have been fully considered but they are not deemed to be persuasive for the following reasons.

8. In the REMARKS, the Applicant argues as follows:

A) That: "The examiner states that write start sector place and time are inherently defined and writing starts accordingly in Ohmi. However, the examiners citations to Ohmi (col. 9, lines 3-25; col. 9, line 66 to col. 10, line 27; and col. 2, line 66 to col. 3, line 9) do not discloses or suggest actions which explicitly or inherently disclose "determining the write start sector or write end sector or the write start time or the write end time" [emphasis added] of each servo track based on said detected phase of the asynchronous continuous vibration," or any actions "based on said write start sector or said write end sector" as claimed by applicants, because the actions described in Ohmi at those citations are performed without reference to write start sector place and/or time." [page 9, para. 3; REMARKS].

FIRST: Ohmi does not have to show ALL the limitations underlined above in the argument, because of the word "or", any one of limitation should satisfy the requirement.

SECOND: careful examination of col. 9, lines 5-16 states that the position data signal generation circuit [circuit 53], places the head 50 at a correct position of the target track. To do this, the "position data signal" must inherently has to know which track AND which data position to put the head on. If this was a simple track jump, the data position

Art Unit: 2655

is not needed, but since vibration has moved the position of the track and data so signal MUST by default incorporate the position of the data on the track. Also must start writing from correct data position that was lost due to vibration, especially when vibration was small.

THIRD: When phase of EACH frequency component is adjusted separately [by phase adjustment unit 55], timing inherently is adjusted and controlled, because phase adjustment is another name for timing adjustment.

B) That: "In contrast, Ohmi discloses recording and reproducing data by, in part, detecting vibration of the rotational driving mechanism of a disk recording medium, and driving ahead according to a drive signal corrected according to the detected vibration... These action described in Ohmi are performed without explicit or implicit reference to write start sector place and/or time." [page 11, para. 2; REMARKS].

Please see paragraph 6, section A) supra, for detailed explanation on how Ohmi indeed does this.

C) That: "Contrary to this, only the phase data of the vibration component is necessary and the amplitude data is not necessary for the present invention. .... invention is more stable than Ohmi's control." [page 12, para. 1; REMARKS].

Since this aspect has NOT been claimed, this argument is moot.

D) That: "Applicants do not understand the examiner's remaining points in paragraph 8 of the office action, and respectfully request clarification. More specifically, applicants request clarification as to how Ohmi determines the write start or end sector based on the phase of asynchronous continuous vibration, or how Ohmi moves the head based on those write start or end sectors. Indeed, Ohmi seems to merely compensate for vibration, without using its phase to move the head to write start or end sectors." [page 12, para. 3; REMARKS].

FIRST: During interview these points were explained at length.

SECOND: Please also see detailed explanation in paragraph 6, section A) supra.

THIRD: It is impossible to move head without using phase. And Ohmi clearly discloses adjusting phase to produce position data signal [see col. 9, lines 7-17]

***Allowable Subject Matter***

9. Claim 2 is objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

NOTE: Claim 2 is allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose a method of writing a servo track for disk file apparatus wherein "the step of determining the start sector or write end sector includes the sub-step of setting a servo track write position is behind the phase of the peak amplitude of the vibration in case where  $f_c < f_r$  [as defined by equation  $[(1-f_c/f_r) \times 180]$  degree]. And write start position ahead of the phase of the peak amplitude of vibration, when  $f_c > f_r$ ." It is noted that the closest prior art, Ohmi. (US 5,936,787) shows a similar apparatus which reads the vibrational phase and frequency and adjust the head and also picks the write spot. However Ohmi fails to disclose details of the write pulse and when to place write pulse ahead or behind on what criteria as claimed by the Applicants.

***Contact information***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Art Unit: 2655

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

A handwritten signature in black ink, reading "Gautam R. Patel". The signature is written in a cursive style with a long horizontal line extending from the end of the name.

Gautam R. Patel  
Patent Examiner  
Group Art Unit 2655

December 12, 2003